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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,416	02/23/2005	Romain Ramel	4590-375	5060
33308 7590 09/20/2007 LOWE HAUPTMAN & BERNER, LLP 1700 DIAGONAL ROAD, SUITE 300 ALEXANDRIA, VA 22314			EXAMINER PHAN, HANH	
			ART UNIT 2613	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/525,416

Applicant(s)

RAMEL ET AL.

Examiner

Hanh Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bao et al (US Patent No. 6,241,397) in view of Chang et al (US Patent No. 6,700,706).

Regarding claim 1, referring to Figure 1, Bao et al teaches a wavelength-selective optical filtering component (i.e., a dual fiber cascaded FFP filter, Fig. 1), capable of transmitting light of a narrow optical spectral band centered around a given wavelength (λ_c) and capable of reflecting light having a wavelength outside the band, comprising:

an optical filtering component (i.e., mirror 10, F-P cavity 1 and mirror 5, Fig. 1) including a Fabry-Perot cavity (i.e., F-P cavity 1, Fig. 1, col. 5, lines 10-67);

an input waveguide (i.e., input fiber 15, Fig. 1) conveying light radiation into the cavity (i.e., F-P cavity 1, Fig. 1) at a first angle of incidence, in order to make a first pass therethrough (i.e., col. 5, lines 10-67); and

means (i.e., a unidirectional optical path loop including fibers 17a and 17b and an optical isolator 25, Fig. 1) for returning the light radiation that has passed through the cavity during the first pass in order to make a second pass through the cavity at a second angle of incidence (i.e., col. 5, lines 10-67);

wherein the transfer function ($T_{1,2}(\lambda)$) of the component is defined by the multiplication of two transfer functions of spectrally offset Fabry-Perot filters (i.e., Fig. 1, col. 5, lines 10-67).

Bao et al differs from claim 1 in that he fails to teach the second angle of incidence differs from the first angle of incidence. Chang et al, from the same field of endeavor likewise teaches a Fabry-Perot optical filter device (Figure 6). Chang et al

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further teaches the second angle of incidence differs from the first angle of incidence (i.e., Fig. 6, col. 5, lines 27-67 and col. 6, lines 1-16). Based on this teaching, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the second angle of incidence differs from the first angle of incidence as taught by Chang et al in the system of Bao et al. One of ordinary skill in the art would have been motivated to do this since allowing reducing the cross talks between each of the channels.

Regarding claim 2, Bao et al further teaches the return means include an optical isolator (i.e., optical isolator 25, Fig. 1).

Regarding claims 3 and 5, the combination of Bao et al and Chang et al teaches the component includes a lens for focusing light radiation into the cavity, in that first light radiation leaves the input waveguide in the direction of the lens, in that second light radiation leaves the return means in the direction of the lens, in that the first light radiation and the second light radiation are approximately parallel to the optical axis of the lens and are offset transversely from the optical axis of the lens, and in that the offset X1 of the first light radiation is different from the offset X2 of the second light radiation (i.e., Fig. 6 of Chang et al, col. 5, lines 27-67 and col. 6, lines 1-16).

Regarding claims 4, 6 and 7, the combination of Bao et al and Chang et al teaches the optical component is tunable (i.e., Fig. 1 of Bao et al, col. 5, lines 10-67 and Fig. 6 of Chang et al, col. 5, lines 27-67 and col. 6, lines 1-16).

5. Claims 1, 3, 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ip (US Patent No. 5,283,845) in view of Chang et al (US Patent No. 6,700,706).

Regarding claim 1, referring to Figures 5 and 7, Ip teaches a wavelength-selective optical filtering component (i.e., an etalon 114, Fig. 5), capable of transmitting light of a narrow optical spectral band centered around a given wavelength (λ_c) and capable of reflecting light having a wavelength outside the band, comprising:

an optical filtering component (i.e., etalon 114, Fig. 5) including a Fabry-Perot cavity (i.e., Fig. 5, col. 1, lines 4-11 and col. 3, lines 20-27);

an input waveguide (i.e., input fiber 110, Fig. 5) conveying light radiation into the cavity at a first angle of incidence, in order to make a first pass therethrough (i.e., Fig. 5, col. 1, lines 4-11 and col. 3, lines 20-27); and

means (i.e., a unidirectional optical path loop including fiber 118, Fig. 5) for returning the light radiation that has passed through the cavity during the first pass in order to make a second pass through the cavity at a second angle of incidence (i.e., i.e., Fig. 5, col. 1, lines 4-11 and col. 3, lines 20-27);

wherein the transfer function ($T_{1,2}(\lambda)$) of the component is defined by the multiplication of two transfer functions of spectrally offset Fabry-Perot filters (i.e., Fig. 5, col. 1, lines 4-11 and col. 3, lines 20-27).

Ip differs from claim 1 in that he fails to teach the second angle of incidence differs from the first angle of incidence. Chang et al, from the same field of endeavor likewise teaches a Fabry-Perot optical filter device (Figure 6). Chang et al further teaches the second angle of incidence differs from the first angle of incidence (i.e., Fig.

6, col. 5, lines 27-67 and col. 6, lines 1-16). Based on this teaching, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the second angle of incidence differs from the first angle of incidence as taught by Chang et al in the system of Bao et al. One of ordinary skill in the art would have been motivated to do this since allowing reducing the cross talks between each of the channels.

Regarding claim 3, the combination of Ip and Chang et al teaches the component includes a lens for focusing light radiation into the cavity, in that first light radiation leaves the input waveguide in the direction of the lens, in that second light radiation leaves the return means in the direction of the lens, in that the first light radiation and the second light radiation are approximately parallel to the optical axis of the lens and are offset transversely from the optical axis of the lens, and in that the offset X1 of the first light radiation is different from the offset X2 of the second light radiation. (i.e., Fig. 5 of Ip and Fig. 6 of Chang et al, col. 5, lines 27-67 and col. 6, lines 1-16).

Regarding claims 4 and 7, the combination of Ip and Chang et al teaches the optical component is tunable (i.e., Fig. 5 of Ip, col. 5, lines 10-67 and Fig. 6 of Chang et al, col. 5, lines 27-67 and col. 6, lines 1-16).

6. Claims 2, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ip (US Patent No. 5,283,845) in view of Chang et al (US Patent No. 6,700,706) and further in view of Bao et al (US Patent No. 6,241,397).

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Regarding claim 2, the combination of Ip and Chang et al teaches all the aspects of the claimed invention except fails to teach the return means include an optical isolator. Bao et al, from the same field of endeavor likewise teaches a Fabry-Perot optical filter device (Figure 1). Bao et al further teaches the return means include an optical isolator (i.e., Fig. 1, col. 5, lines 10-67). Based on this teaching, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the return means include an optical isolator as taught by Bao et al in the system of the combination of Ip and Chang et al. One of ordinary skill in the art would have been motivated to do this since allowing to form a unidirectional optical path loop.

Regarding claim 5, the combination of Ip and Chang et al teaches the component includes a lens for focusing light radiation into the cavity, in that first light radiation leaves the input waveguide in the direction of the lens, in that second light radiation leaves the return means in the direction of the lens, in that the first light radiation and the second light radiation are approximately parallel to the optical axis of the lens and are offset transversely from the optical axis of the lens, and in that the offset X1 of the first light radiation is different from the offset X2 of the second light radiation (i.e., Fig 5 of Ip and Fig. 6 of Chang et al, col. 5, lines 27-67 and col. 6, lines 1-16).

Regarding claim 6, the combination of Ip and Chang et al teaches the optical component is tunable (i.e., Fig. 5 of Ip, col. 5, lines 10-67 and Fig. 6 of Chang et al, col. 5, lines 27-67 and col. 6, lines 1-16).

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Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.


HANH PHAN
PRIMARY EXAMINER